REMARKS

Claims 1, 9, 16, 23, 33 and 41-44 are amended. No new claims are added. Claims 2, 12, 20, 27 and 35 are cancelled without prejudice. Applicant expressly reserves the right to pursue the cancelled claims in one or more continuation or divisional applications.

Claims 1, 3-11, 13-19, 21-26, 28-34 and 36-44 are pending for consideration. In view of the following amendments and remarks, Applicant respectfully requests that this application be allowed and forwarded on to issuance.

§ 101 Rejections

Claims 1 and 41-44 stand rejected under 35 U.S.C. § 101 because, in the Office's opinion, they are not limited to tangible embodiments. Claims 2-8 also stand rejected under § 101 based on their dependency on claim 1. Claim 2 has been cancelled as indicated above and the §101 rejection thereof is now moot. However, Applicant respectfully disagrees with the Office and submits that claims 1 and 3-8 and 41-44, as respectively amended, comply with the § 101 standard for patentable subject matter.

Specifically, with regard to claim 1 (as amended), that claim recites: "One or more *tangible* computer-readable media comprising …". As claims 3-8 depend (directly or indirectly) from claim 1, as amended, it is axiomatic that they too include all of the features of claim 1, as amended, as well as their own respectively patentable subject matter. Claims 41-44 have also been respectively amended to include recitation of the term "tangible" in regard to the computer-readable medium or media recited thereby.

Accordingly, Applicant respectfully submits that claims 1, 3-8 and 41-44, as respectively amended, comply with the requirements of § 101 and requests that the corresponding § 101 rejections be withdrawn.

§ 112 Rejections

Claims 1-8 and 41-44 stand rejected under 35 U.S.C. § 112, first paragraph, for, in the Office's opinion, including intangible embodiments and thus failing to comply with the enablement requirement. Claim 2 has been cancelled as indicated above and the § 112 rejection thereof is now moot. The Applicant respectfully disagrees for at least those reasons argued above in regard to the § 101 rejection of those same claims, and asserts that claims 1, 3-8 and 41-44, as respectively amended, satisfy the enablement requirement of 35 U.S.C. § 112, first paragraph. The Applicant thus respectfully requests that the rejection of claims 1, 3-8 and 41-44 under § 112, first paragraph, be withdrawn.

§ 102 and § 103 Rejections

Claims 1, 5-7, 9-11, 16-17, 22-25, 29, 31-33 37, 39 and 40-44 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,799,168 ("Ban").

Claims 2, 12, 20, 27 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ban as cited above, in view of U.S. Patent No. 6,000,006 ("Bruce").

Claims 3-4, 13-14, 19, 21, 26, 28, 34 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ban, in view of U.S. Patent No. 6,493,807 ("Martwick").

Claims 1, 5-7, 9-11, 16-17, 22-25, 29, 31-33 37, 39 and 40-44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ban, in view of U.S. Patent No. 6,253,281 ("Hall").

Claims 2, 12, 20, 27 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ban in view of Hall, in further view of Bruce.

Claims 3-4, 13-14, 19, 21, 26, 28, 34 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Ban in view of Hall, in further view of Martwick.

The Claims

Claim 1 has been amended and, as amended, recites one or more tangible computer-readable media comprising a flash memory driver that is executable by a computer to interface between a file system and one or more flash memory media, the flash memory driver comprising [added language appears in bold italics]:

- flash abstraction logic that is invokable by the file system to manage flash memory operations without regard to the type of the one or more flash memory media; and
- flash media logic configured to interact with different types of the flash memory media;
- wherein the flash abstraction logic invokes the flash media logic to perform memory operations that are potentially performed in different ways depending on the type of the flash memory media, and further wherein the flash memory driver is flash memory medium agnostic,
- *and wherein one of the flash memory operations includes performing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.*

In making out the § 102 rejection of this claim, the Office argues that its subject matter is anticipated by Ban. In making out it's § 103 rejection of this

claim, the Office argues that its subject matter is rendered obvious by the combined teachings of Ban and Hall.

Applicant respectfully disagrees and traverses the Office's rejections. For the reasons set forth below, the requirements for anticipation over Ban are not established. Furthermore, the rejection over the combination of Ban and Hall does not establish a *prima facie* case of obviousness.

First, Ban fails to provide at least one feature as positively recited in the claimed subject matter.

Second, the combination of Ban and Hall fails to teach or suggest at least one feature as positively recited in the claimed subject matter.

A.   Ban Fails to Disclose Claimed Subject Matter

The Office argues that Ban discloses all of the subject matter of this claim. Respectfully, the Office is in error on this point as described below.

Specifically, Ban fails to provide <u>flash memory operations</u> that include <u>performing wear-leveling operations associated with the flash memory medium by</u> <u>way of circular and continuous advancement of a write pointer</u>, as positively recited by claim 1, as amended. In fact, Ban is totally devoid of any *wear-leveling operation* regarding a flash memory medium in any way, or for any purpose.

Accordingly, Ban fails to provide all of the features as positively recited by claim 1, as amended. The § 102 rejection of claim 1 (as amended) is invalid and must be withdrawn.

B.   Ban and Hall Fail to Teach or Suggest Claimed Subject Matter

As substantially argued at **A.** above, Ban fails to teach or suggest <u>flash</u>

memory operations that include performing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer, as positively recited by claim 1, as amended.

In addition, Hall fails to cure the foregoing deficiency of Ban. Specifically, Hall fails to teach or suggest flash memory operations that include performing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer, as positively recited by claim 1, as amended. There is no way to select elements from Ban, and then to somehow combine those elements with other elements selected from Hall in order to arrive at the subject matter recited by claim 1, as amended, as no possible combination of Ban and Hall teaches or suggests all of the recited features.

Accordingly, for at least these reasons, the Office's *prima facie* case of obviousness fails. In turn, the § 103 rejection of this claim is invalid and must be withdrawn.

Claims 3-8 are allowable as depending from an allowable base claim. Furthermore, to the extent that claim 1 is allowable, the § 103 rejection of claims 3-4 over the combination of Ban with Martwick, the rejection of claims 5-7 over the combination of Ban with Hall, and the rejection of claims 3-4 over the combination of Ban with Hall and Martwick, is not seen to add anything of significance.

Claim 9 has been amended and, as amended, recites a flash driver, comprising [added language appears in bold italics]:

- flash abstraction logic, interposed between a file system and a flash memory medium, configured to:
- (a) map a logical sector status from the file system to a physical sector status of the flash memory medium; and

- (b) maintain memory requirements associated with operating the flash memory medium;
- wherein the flash driver is located remote from the flash memory medium,
- *and wherein the memory requirements include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.*

In making out the § 102 rejection of this claim, the Office argues that its subject matter is anticipated by Ban. In making out the § 103 rejection of this claim, the Office Argues that its subject matter is rendered obvious by the combined teachings of Ban and Hall.

Applicant respectfully disagrees, particularly in view of the amendment and the discussion of the combination of Ban and Hall above in regard to claim 1, as amended. Specifically, Ban fails to provide, teach or suggest memory requirements that include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer, as positively recited by the subject matter of claim 9, as amended.

In addition, Hall fails to cure the deficiencies of Ban, as Hall fails to teach or suggest memory requirements that include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.

Accordingly, for at least the foregoing reasons, the respective § 102 and § 103 rejections of claim 9, as amended, are invalid and must be withdrawn. Therefore, claim 9 (as amended) is allowable.

Claims 10-11 and 13-15 are allowable as depending from an allowable base claim. Additionally, to the extent that claim 9 is allowable, the § 103 rejection of claims 13-14 over the combination of Ban with Martwick, the rejection of claims 10-11 over the combination of Ban with Hall, and the rejection

of claims 13-14 over the combination of Ban with Hall and Martwick, is not seen to add anything of significance.

Claim 16 has been amended and, as amended, recites a flash driver, comprising [added language appears in bold italics]:

- user programmable flash medium logic, configured to read, write and erase data to and from a flash memory medium; and
- flash abstraction logic, interposed between a file system and flash memory medium to maintain universal requirements for the operation of the flash memory medium;
- wherein the flash memory driver is flash memory medium agnostic,
- *and wherein the universal requirements include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.*

In making out the § 102 and § 103 rejections of this claim, the Office argues that its subject matter is anticipated by Ban, and is rendered obvious by the combination of Ban and Hall. Applicant respectfully disagrees and traverses the Office's rejections. Specifically, Ban fails to provide, teach or suggest universal requirements that include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer, as positively recited by the subject matter of claim 16, as amended. In addition, Hall fails to cure the deficiencies of Ban, as Hall fails to teach or suggest universal requirements that include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.

Accordingly, for at least the foregoing reasons, the respective § 102 and § 103 rejections of claim 16, as amended, are invalid and must be withdrawn. Therefore, claim 16 (as amended) is allowable.

Claims 17-19 and 21-22 are allowable as depending from an allowable base claim. Additionally, to the extent that claim 16 is allowable, the § 103 rejection of claims 19 and 21 over the combination of Ban with Martwick, the rejection of claims 17 and 22 over combination of Ban with Hall, and the rejection of claims 19 and 21 over the combination of Ban with Hall and Martwick, is not seen to add anything of significance.

Claim 23 has been amended and, as amended, recites a processing device that uses a flash memory medium for storage of data, comprising [added language appears in bold italics]:

- a file system, configured to control data storage for the processing device;
- flash media logic, configured to perform physical sector operations to a flash memory medium based on physical sector commands, wherein the flash medium logic comprises a set of programmable entry points that can be implemented by a user to interface with any type of flash memory medium selected; and
- flash abstraction logic, configured to maintain flash memory requirements that are necessary to operate the flash memory medium,
- ***wherein the flash memory requirements include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.***

In making out the § 102 and § 103 rejections of this claim, the Office argues that its subject matter is anticipated by Ban, and is rendered obvious by the combination of Ban and Hall. Applicant respectfully disagrees and traverses the Office's rejections. Specifically, Ban fails to provide, teach or suggest <u>flash</u>

memory requirements that include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer, as positively recited by the subject matter of claim 23, as amended. Hall fails to cure the deficiencies of Ban. Specifically, Hall fails to teach or suggest flash memory requirements that include managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.

Accordingly, for at least the foregoing reasons, the respective § 102 and § 103 rejections of claim 23, as amended, are invalid and must be withdrawn. Therefore, claim 23 (as amended) is allowable.

Claims 24-26 and 28-32 are allowable as depending from an allowable base claim. In addition, to the extent that claim 23 is allowable, the § 103 rejection of claims 26 and 28 over the combination of Ban with Martwick, the rejection of claims and the rejection of claims 24-25, 29 and 31-32 over combination of Ban with Hall, and the rejection of claims 26 and 28 over the combination of Ban with Hall and Martwick, is not seen to add anything of significance.

Claim 33 has been amended and, as amended, recites in a processing device that uses a flash memory medium for storage of data, a method for driving the flash memory medium, comprising [added language appears in bold italics]:

- managing rules associated with operating the flash memory medium in a flash abstraction logic; and
- issuing physical sector commands directly to the flash memory medium from a flash medium logic;
- wherein the method is flash memory medium agnostic,

- *and wherein one of the rules includes managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.*

In making out the § 102 and § 103 rejections of this claim, the Office argues that its subject matter is anticipated by Ban, and is rendered obvious by the combination of Ban and Hall. Applicant respectfully disagrees and traverses the Office's rejections. Specifically, Ban fails to provide, teach or suggest managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer, as positively recited by the subject matter of claim 33, as amended. Hall fails to cure the deficiencies of Ban. Specifically, Hall fails to teach or suggest managing wear-leveling operations associated with the flash memory medium by way of circular and continuous advancement of a write pointer.

Accordingly, for at least the foregoing reasons, the respective § 102 and § 103 rejections of claim 33, as amended, are invalid and must be withdrawn. Therefore, claim 33 (as amended) is allowable.

Claims 34 and 36-41 are allowable as depending from an allowable base claim. Additionally, to the extent that claim 33 is allowable, the § 103 rejection of claims 34 and 36 over the combination of Ban with Martwick, the rejection of claims 37, 39 and 40-41 over the combination of Ban with Hall, and the rejection of claims 34 and 36 over the combination of Ban with Martwick and Hall, is not seen to add anything of significance.

Claim 42 has been amended and, as amended, recites a tangible computer-readable medium for a flash driver, comprising [added language appears in bold italics]:

- computer-executable instructions that, when executed, direct the flash driver to provide an interface between a file system, selected from one of a plurality of different file systems, and a flash memory medium, selected from one of a plurality of different flash memory media,
- wherein the flash driver is located remote from the flash memory medium,
- *and wherein wear-leveling of the flash memory medium is performed by way of circular and continuous advancement of a write pointer.*

In making out the § 102 and § 103 rejections of this claim, the Office argues that its subject matter is anticipated by Ban, and is rendered obvious by the combination of Ban and Hall. Applicant respectfully disagrees and traverses the Office's rejections. Specifically, Ban fails to provide, teach or suggest that wear-leveling of the flash memory medium is performed by way of circular and continuous advancement of a write pointer, as positively recited by the subject matter of claim 42, as amended. Hall fails to cure the deficiencies of Ban. Specifically, Hall fails to teach or suggest that wear-leveling of the flash memory medium is performed by way of circular and continuous advancement of a write pointer.

Accordingly, for at least the foregoing reasons, the respective § 102 and § 103 rejections of claim 42, as amended, are invalid and must be withdrawn. Therefore, claim 42 (as amended) is allowable.

Claim 43 has been amended and, as amended, recites a tangible computer-readable medium for a flash driver, comprising [added language appears in bold italics]:

- computer-executable instructions that, when executed, direct the flash driver to provide an interface between a file system, selected

from one of a plurality of different file systems, and a flash memory medium, selected from one of a plurality of different flash memory media,

- wherein the flash driver is located remote from the flash memory medium,
- *and wherein wear-leveling of the flash memory medium is performed by way of circular and continuous advancement of a write pointer.*

In making out the § 102 and § 103 rejections of this claim, the Office argues that its subject matter is anticipated by Ban, and is rendered obvious by the combination of Ban and Hall. Applicant respectfully disagrees and traverses the Office's rejections.

Accordingly, for at least reasons substantially analogous to those argued above in regard to claim 42, the respective § 102 and § 103 rejections of claim 43 (as amended) are invalid and must be withdrawn. Therefore, claim 43, as amended, is allowable.

Claim 44 has been amended and, as amended, recites a tangible computer-readable medium for a flash driver, comprising [added language appears in bold italics]:

- computer-executable instructions that, when executed, direct the flash driver to:
- provide an interface between a file system, selected from one of a plurality of different files systems, and a flash memory medium, selected from one of a plurality of different flash memory media;
- manage a set of characteristics that are common to the plurality of different flash memory media at a flash abstraction logic; and
- provide programmable entry points that can be optionally selected by a user to interface with the type of flash memory medium selected;
- wherein the flash driver is located remote from the flash memory medium and the flash driver is flash memory medium agnostic,

- *and wherein wear-leveling of a flash memory medium is performed by way of circular and continuous advancement of a write pointer.*

In making out the § 102 and § 103 rejections of this claim, the Office argues that its subject matter is anticipated by Ban, and is rendered obvious by the combination of Ban and Hall. Applicant respectfully disagrees and traverses the Office's rejections.

Accordingly, for at least reasons substantially analogous to those argued above in regard to claim 42, the respective § 102 and § 103 rejections of claim 44, as amended, are invalid and must be withdrawn. Therefore, claim 44 (as amended) is allowable.

Conclusion

The claims are in condition for allowance. Accordingly, Applicant requests a Notice of Allowability be issued forthwith. If the Office's next anticipated action is to be anything other than issuance of a Notice of Allowability, Applicant respectfully requests a telephone call for the purpose of scheduling an interview.

Respectfully submitted,

Dated: 9/31/06

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